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September 27, 2007

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512
USA

Via Email

Dear Sir,

Re: Draft 2007 Strategic Transmission Investment Plan
Docket No. 06-IEP-1F

Attached is a proposed modification to the NorthernLights section of the Strategic Transmission Investment Plan (CEC-700-2007-018CTD) dated August 2007 for your consideration. These modifications are intended to reflect TransCanada's current focus on transmission expansion in the western United States.

TransCanada began its NorthernLights initiatives with a view to transport lower cost, base load energy to areas of the US that have growing energy appetites. Over the last couple of years, the States with rapidly growing energy needs have made a significant transition to require increasing amounts of energy from renewable resources.

In recognition of this shift, as well as the quickly escalating cost of conventional and IGCC coal fired plants and the need for IGCC with CO_2 sequestration technology to mature, TransCanada has shifted the focus of the NorthernLights Projects to the integration of renewable energy resources, and integration of geographically remote power systems. What remains the same is our emphasis on low capital cost, high efficiency and low environmental impact high voltage direct current transmission from areas of substantial resources, to areas of rapid demand growth.

I would like to thank the Commission for the opportunity to provide input to this process. If you have questions please do not hesitate to call myself or Bill Hosie at (403) 920-7338.

Sincerely,

Ken Tate
Vice-President, Power Transmission

email copy to: docket@energy.state.ca.us

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The NorthernLights Initiative

Purpose

The general purpose of the NorthernLights Initiative (NorthernLights) is to connect remote merchant or utility generation to load centers, and to facilitate the exchange of energy over widely dispersed geographic regions within the Western Interconnection. NorthernLights is a TransCanada initiative comprised of three distinct projects: the Celilo Project, and two Inland Projects. Each project would be approximately 1,000 miles long, deliver approximately 3,000 MW, use high-voltage DC transmission, and cost between $1.5 and $2.0 billion. According to Bill Hosie of the TransCanada Corporation (TransCanada), "The projects will facilitate interregional trade and support the reliability of the interconnected system. The projects will provide customers at the load end with a huge set of resources including, integrated wind, clean coal, synthetic gas, geothermal, and large and small hydro projects that are still undeveloped in Canada."[146]

The NorthernLights economic analyses indicate the projects would be economically competitive with natural gas. Both the Celilo and Inland projects would be capable of providing electricity to California, Arizona, and Nevada over existing transmission facilities.

Project Description

TransCanada is planning and developing the NorthernLights Project. TransCanada is a Canadian energy firm with extensive holdings in both Canada and the United States. As noted by Bill Hosie, "Today [the] NorthernLights project does not propose to go into

[145] Ibid, slide nos. 7 and 21.

[146] Hosie, Bill, TransCanada Corporation, Transcript of the May 14, 2007 IEPR/Electricity Committee *Workshop on In state and Interstate Transmission and Potential In state Corridors*, p. 177, California Energy Commission, Sacramento, CA, <http://www.energy.ca.gov/2007_energypolicy/documents/2007_05_14_workshop/2007_05_14_TRANSCRIPT.PDF>, posted May 18, 2007, accessed July 23, 2007.

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California....Each of the projects has the opportunity to extend into California should the situation evolve so that California wants to see that happen."[147]

The Celilo Project would access electricity from Alberta, British Columbia and Montana and deliver it to the Celilo converter station near Portland, Oregon. According to Bill Hosie, "That (the Celilo) project was originally conceived to bring oil sands cogeneration energy, wind and in the future, hydroelectric energy from new resources in Alberta."[148] TransCanada has done extensive exploration of the possibility of converting the waste components of heavy oil to synthetic gas that can be used for cogeneration. Though this process the waste heat can be used to offset gas fired steam generation and the CO_2 can be readily captured. The vision includes pipelining the CO_2 to declining conventional oil fields where the CO_2 would be injected and sequestered while enhancing oil field production.

With the growing need for renewable energy resources, the initial underpinning for the Celilo Project may be the availability of wind resources in Alberta and British Columbia. The AESO currently has 4,500 MW of southern Alberta wind generation in the interconnection queue. TransCanada continues to consider the possibility of extending the system to the San Francisco area.

TransCanada is also considering two inland projects. Both would access coal and wind resources in Montana and the Wyoming Powder River area and eventually terminate near Las Vegas. These projects could continue into California through the Las Vegas area. These projects could connect AC collector systems for wind and clean coal generation to HVDC lines delivering power to Las Vegas and potentially Southern California.[149]

Potential Benefits

The NorthernLights project would provide access to diverse resources including wind, clean coal, synthetic gas cogeneration, geothermal, and hydro. The Projects would create new transmission paths between regions of substantial resource potential and rapidly growing load areas. NorthernLights is expected to create higher capacity factor wind products through the effect of collecting wind resources from widely separated geographic areas. The new paths created will help to integrate the operation of widely diverse regions over relatively low capital cost and high transmission lines that have low environmental and land use impacts.

Status

TransCanada's two inland projects are moving forward with siting, permitting, and building a consortium willing to help pay for the projects, through contract participation agreements.[150] The Governors of Montana, Idaho, and Nevada have signed an MOU which will facilitate the permitting process of the Inland Projects through the Western Governors siting and permitting protocol. TransCanada has also

[147] Ibid, pp. 176 177.

[148] Ibid, p. 169.

[149] Part of May 24th Submittal to the Commission. Includes submittal to DOE and page 5 includes this description.

[150] Hosie, Bill, TransCanada Corporation, transcript of the May 14, 2007 IEPR/Electricity Committee *Workshop on In state and Interstate Transmission and Potential In state Corridors*, p. 172, California Energy Commission, Sacramento, CA, <http://www.energy.ca.gov/2007_energypolicy/documents/2007 05 14_workshop/2007 05 14_TRANSCRIPT.PDF>, posted May 18, 2007, accessed July 23, 2007.

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signed MOUs for over 10,000 MW of generation in Montana and Wyoming. The current schedule is to complete the first project in six years: three years for permitting and three years for construction.[151] TransCanada has coordinated with WECC on the Celilo Project, participated in the EPAct-05 section 368 corridor designation process, and initiated permitting procedures with Alberta to extend the project through Alberta.[152]

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Issues

NorthernLights, as a merchant project, must be market driven. The model proposed is one of a number of partners and a number of contracted shippers who take delivery of the product at the load end. This model differs from a traditional western shared project where the project partners share capacity ownership based on equity share. At this time, it is unclear if this merchant model can succeed in the West.

Many jurisdictions are moving rapidly to require significant renewable resources in each utilities energy portfolio. One of the many issues that develop is whether or not the renewable energy needs to come from within the state, within the USA or within the WECC. TransCanada's view is that the jurisdiction mandating the use of renewable energy should accept the energy from anywhere within the WECC as long as it is commercially competitive and meets the environmental standards prescribed by the regulator.

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